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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Masahiro Ohki

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06/01/2005

SUGHRUE, MION, ZINN, MACPEAK & SEAS  
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EXAMINER

NG, CHRISTINE Y

ART UNIT

PAPER NUMBER

2663

DATE MAILED: 06/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/801,659

Applicant(s)

OHKI, MASAHIRO

Examiner

Christine Ng

Art Unit

2663

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2 and 6-9 is/are rejected.
- 7) ☒ Claim(s) 3-5 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 2/1/02.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art in view of U.S. Patent No. 5,488,737 to Harbin et al.

Referring to claim 1, the admitted prior art discloses in Figure 1 a wireless internet access system wherein a flying object (10) is connected with an earth station (50) connected with an internet (60); wherein

Said flying object comprises:

A LAN (20).

A flying router (30) connected with the LAN for communicating bi-directionally (arrows between 10 and 50) with the earth station.

User's terminals (40) connected with the LAN. Refer to Page 2, lines 5-12.

[Figure 7] Said earth station comprises:

An antenna (100) for tracking the flying object.

Antenna control means (250) for controlling the direction of said antenna.

An antenna beacon signal receiver (300) connected with said antenna.

A modem (460) connected with said antenna beacon signal receiver.

An earth router (800) for accessing to said internet. Refer to Page 3, line 25 to Page 4, line 5.

The admitted prior art does not disclose timing separation means for separating the receiving timing of data transmitted by the flying object from the control timing of the direction of the antenna, when the receiving timing overlaps with the control timing.

Harbin et al disclose in Figure 1A a method for controlling the receiving timing of data transmitted by a mobile station and the direction of the antenna at a base station. Each base station receive antenna 14 scans the coverage area 19 of base station 12. Each remote station 16 prefixes its information with a synchronization signal. Base station receive antenna 12 scans the region 19 until it detects the synchronization signal transmitted by the remote station 16. Once a synchronization signal is detected, the base station receive antenna stops in that position until remote station 16 fully transfers its information. Refer to Column 7, lines 45-60; Column 10, lines 3-12; and Column 11, lines 1-65. The receive timing of data (synchronization signal) transmitted by the flying object (remote station 16) thus overlaps with the control timing (scanning of region 19 until detection of the synchronization signal) of the direction of the antenna (base station receive antenna 14). When the two timings overlap, the timings are separated, since the base station receive antenna temporarily stops in a certain position until it receives all the information from remote station 16. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include timing separation means for separating the receiving timing of data transmitted by the flying object from the control timing of the direction of the antenna, when the receiving timing

overlaps with the control timing; the motivation being so that when the two timings overlap, that indicates that the base station has detected the synchronization signal and can receive the signal from its antenna at that position.

Referring to claim 2, the admitted prior art does not disclose that the said timing separation means delays said control timing, compared with said receiving timing.

Harbin et al disclose in Figure 1A that the control timing (scanning of region 19 until detection of the synchronization signal) is delayed, compared with the receiving timing (synchronization signal). Base station receive antenna 12 scans the region 19 until it detects the synchronization signal transmitted by the mobile station 16. Once a synchronization signal is detected, the base station receive antenna stops in that position until remote station 16 fully transfers its information. The base station resumes scanning after reception of the information. Refer to Column 7, lines 45-60; Column 10, lines 3-12; and Column 11, lines 1-65. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that the said timing separation means delays said control timing, compared with said receiving timing; the motivation being that the base station must temporarily stop its scanning in order to affix the antenna in the direction of the remote terminal to receive the information.

Referring to claim 6, the admitted prior art discloses wherein the flying object is an airplane. Refer to Page 2, lines 5-12.

Referring to claim 7, the admitted prior art discloses in Figure 8 that the flying router comprises:

An internal router (850) connected with said LAN (Figure 1, LAN 20).

A flying modem (600) connected with said flying router.

A beacon signal generator (700) for generating a beacon signal.

A flying antenna (500) for transmitting said beacon signal and for communicating bi-directionally with the earth station (Figure 1, bi-directional connection between router 30 and earth station 50). Refer to Page 4, lines 6-12.

3. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,488,737 to Harbin et al in view of U.S. Publication No. 2002/0067711 to Kobayashi et al.

Harbin et al disclose in Figure 1A an earth station (BS 12) connected with an internet (packet network) for communicating with a LAN on a flying object (remote stations 16). Refer to Column 6, line 66 to Column 7, line 11. As shown in Figure 2, BS 12 comprises:

An antenna (14) for tracking the flying object. Refer to Column 8, lines 3-9.

Antenna control means (26) for controlling the direction of said antenna. Refer to Column 8, lines 25-27.

Postponing means (data processing device 32) for generating a disable signal (antenna 14 is stopped when a synchronization signal is detected) for postponing said controlling until said earth station completes receiving data in frame transmitted by said flying object (remote terminal 16), when timing of receiving said data in said frame (synchronization signal) transmitted by said flying object overlaps with the timing of receiving a beacon signal (scanning of region 19 until detection of the synchronization signal). Refer to the rejection of claim 1.

Harbin et al also do not disclose that the beacon signal is transmitted by said flying object.

Kobayashi et al disclose in Figure 1 that a flying object (master station 6) transmits to the satellite station 4 a beacon signal (carrier wave). When antenna unit 1 of the satellite station 4 receives electric waves from the master station, the antenna unit 1 can change the directivity characteristic of its antenna based on the carrier wave. Refer to Sections 0045-0050. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that the beacon signal is transmitted by said flying object; the motivation being so that the satellite station can use the carrier wave to determine to location of the master station and adjust its antenna accordingly in order to transmit and receive information.

4. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art in view of U.S. Publication No. 2002/0067711 to Kobayashi et al, and in further view of U.S. Patent No. 5,488,737 to Harbin et al

The admitted prior art discloses in Figure 1 an earth station (50) connected with an internet (60) for communicating with a LAN (20) on a flying object (10), which comprises (Figure 7):

An antenna (100) for tracking said flying object.

Antenna control means (250) for controlling the direction of said antenna.

A MODEM (460) for modulating and demodulating signals to and from said flying object.

A router (800) connected with said MODEM for accessing to said internet. Refer

to Page 3, line 25 to Page 4, line 5.

The admitted prior art does not disclose accumulation means for storing a beacon signal transmitted by said flying object.

Kobayashi discloses in Figure 1 an accumulation means (antenna directivity characteristic control unit 3) that stores the beacon signal (carrier wave) received from the flying object (master station 6). When antenna unit 1 of the satellite station 4 receives electric waves from the master station, the antenna directivity characteristic control unit 3 changes the directivity characteristic of the antenna based on the carrier wave. Refer to Sections 0045-0050. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to include accumulation means for storing a beacon signal transmitted by said flying object; the motivation being so that the satellite station can use the carrier wave to determine to location of the master station and adjust its antenna accordingly in order to transmit and receive information.

The admitted prior art does not disclose that said MODEM comprises: disable signal generation means for making a disable signal active, when said MODEM detects a start delimiter in a preamble of a frame transmitted by said flying object, and for outputting the active disable signal; and antenna control start means for prohibiting said controlling on the basis of said active disable signal, when the timing of receiving data in said frame overlaps with the timing of receiving said beacon signal, for allowing said antenna beacon signal to be stored into said accumulation means, and for starting said controlling, when said MODEM completes receiving said data in said frame.



Harbin et al disclose in Figure 1A disable signal generation means (data processing device 32) for making a disable signal active (antenna 14 is stopped when a synchronization signal is detected), when said MODEM detects a start delimiter (synchronization signal) in a preamble of a frame (Figure 3, message sync word 46) transmitted by said flying object, and for outputting the active disable signal; and antenna control start means (scanning array control 34) for prohibiting said controlling on the basis of said active disable signal, when the timing of receiving data in said frame (synchronization signal) overlaps with the timing of receiving said beacon signal (scanning of region 19 until detection of the synchronization signal), for allowing said antenna beacon signal to be stored into said accumulation means, and for starting said controlling, when said MODEM completes receiving said data in said frame. Refer to Column 7, lines 45-60; Column 10, lines 3-12; and Column 11, lines 1-65. Refer to the rejection of claim 1.

#### ***Allowable Subject Matter***

5. Claims 3-5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christine Ng whose telephone number is (571) 272-3124. The examiner can normally be reached on M-F; 8:00 am - 5:00 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

C. Ng CW  
May 27, 2005

  
RICKY NGO  
PRIMARY EXAMINER  
5/31/05